



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2012-1157; Directorate Identifier 2012-NM-061-AD]**

**RIN 2120-AA64**

**Airworthiness Directives; BAE SYSTEMS (OPERATIONS) LIMITED Model airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to adopt a new airworthiness directive (AD) for all BAE SYSTEMS (OPERATIONS) LIMITED Model BAe 146 and Avro 146-RJ series airplanes. This proposed AD was prompted by a report that certain ceramic terminal blocks, through which the wiring for the engine fire extinguishers, fire detection circuits, and engine and intake anti-ice system are routed, have been found to have moisture ingress which can degrade the insulation resistance of the ceramic terminal blocks. This proposed AD would require a one-time insulation resistance test of ceramic terminal blocks, and if necessary, replacement of the blocks. We are proposing this AD to prevent latent failure of the number 2 fire bottle, which, in the event of an engine fire, could result in failure of the fire bottle to discharge when activated and possibly preventing the flightcrew from extinguishing an engine fire.

**DATES:** We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: (202) 493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.
- Hand Delivery: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed AD, contact BAE SYSTEMS (OPERATIONS) LIMITED, Customer Information Department, Prestwick International Airport, Ayrshire, KA9 2RW, Scotland, United Kingdom; telephone +44 1292 675207; fax +44 1292 675704; email [RAPublications@baesystems.com](mailto:RAPublications@baesystems.com); Internet <http://www.baesystems.com/Businesses/RegionalAircraft/index.htm>. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Operations office between 9 a.m. and 5 p.m., Monday through

Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone (800) 647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Todd Thompson, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone (425) 227-1175; fax (425) 227-1149.

**SUPPLEMENTARY INFORMATION:**

**Comments Invited**

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2012-1157; Directorate Identifier 2012-NM-061-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD based on those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

## Discussion

The European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Community, has issued EASA Airworthiness Directive 2012-0040, dated March 13, 2012 (referred to after this as “the MCAI”), to correct an unsafe condition for the specified products. The MCAI states:

Moisture ingress has been discovered on certain ceramic terminal blocks, mounted on the engine cowlings, through which the wiring for the engine fire extinguishers, fire detection circuits and engine and intake anti ice system are routed. The affected terminal blocks were introduced through BAE Systems SB 71-077-01693A (modification HCM01693A) during the period 2002-2004, as this modification was mandated by CAA UK AD 005-10-2001 [which corresponds with FAA AD 2003-03-10, Amendment 39-13034 (68 FR 4902, January 31, 2003)]. Moisture ingress has a detrimental effect on the insulation resistance of the ceramic terminal block with the resultant possibility of interconnections between all terminals. Most of the possible failure conditions in the terminal block should result in an evident warning or other indication. However, the functional loss of the number 2 fire bottle would be a dormant failure.

This condition, if not corrected, could result in the failure of a fire bottle to discharge when activated, possibly preventing the flight crew in extinguishing an engine fire.

For the reasons described above, this AD requires a one-time inspection of the ceramic terminal blocks to determine the insulation resistance and, depending on findings, replacement of terminal blocks, and the reporting of the results to the BAE Systems. These will be used to establish a suitable repetitive inspection interval, which is expected to be introduced through the Maintenance Review Board (MRB) process.

You may obtain further information by examining the MCAI in the AD docket.

**Relevant Service Information**

BAE SYSTEMS (OPERATIONS) LIMITED has issued Inspection Service Bulletin 24-143, Revision 1, dated October 2, 2012. The actions described in this service information are intended to correct the unsafe condition identified in the MCAI.

**FAA's Determination and Requirements of This Proposed AD**

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to our bilateral agreement with the State of Design Authority, we have been notified of the unsafe condition described in the MCAI and service information referenced above. We are proposing this AD because we evaluated all pertinent information and determined an unsafe condition exists and is likely to exist or develop on other products of the same type design.

**Reporting Requirement**

Although the MCAI or service information tells you to submit information to BAE SYSTEMS (OPERATIONS) LIMITED, paragraph (i) of this AD specifies that such submittal is not required.

**Costs of Compliance**

Based on the service information, we estimate that this proposed AD would affect about 2 products of U.S. registry. We also estimate that it would take about 10 work-hours per product to comply with the basic requirements of this proposed AD. The average labor rate is \$85 per work-hour. Based on these figures, we estimate the cost of the proposed AD on U.S. operators to be \$1,700, or \$850 per product.

In addition, we estimate that any necessary follow-on actions would take about 1 work-hour and require parts costing \$949, for a cost of \$1,034 per product. We have no way of determining the number of products that may need these actions.

### **Authority for This Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. "Subtitle VII: Aviation Programs," describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in "Subtitle VII, Part A, Subpart III, Section 44701: General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

1. Is not a “significant regulatory action” under Executive Order 12866;
2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
3. Will not affect intrastate aviation in Alaska; and
4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

We prepared a regulatory evaluation of the estimated costs to comply with this proposed AD and placed it in the AD docket.

#### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

#### **The Proposed Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

#### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new AD:

**BAE SYSTEMS (OPERATIONS) LIMITED:** Docket No. FAA-2012-1157;

Directorate Identifier 2012-NM-061-AD.

**(a) Comments Due Date**

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to all BAE SYSTEMS (OPERATIONS) LIMITED Model BAe 146-100A, -200A, and -300A airplanes; and Model Avro 146-RJ70A, 146-RJ85A, and 146-RJ100A airplanes; certificated in any category.

**(d) Subject**

Air Transport Association (ATA) of America Code 24: Electrical Power.

**(e) Reason**

This AD was prompted by a report that certain ceramic terminal blocks, through which the wiring for the engine fire extinguishers, fire detection circuits, and engine and intake anti-ice system are routed, have been found to have moisture ingress which can degrade the insulation resistance of the ceramic terminal blocks. We are issuing this AD to prevent latent failure of the number 2 fire bottle, which, in the event of an engine fire, could result in failure of the fire bottle to discharge when activated and possibly preventing the flightcrew from extinguishing an engine fire.

**(f) Compliance**

You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.



**(g) Inspection**

Within 4,000 flight cycles or 18 months, whichever occurs first after the effective date of this AD, do an insulation resistance test on each terminal block, in accordance with paragraphs 2.C., 2.D., 2.E., and 2.F. of the Accomplishment Instructions of BAE SYSTEMS (OPERATIONS) LIMITED Inspection Service Bulletin 24-143, Revision 1, dated October 2, 2012.

**(h) Replacement**

If, during the test required by paragraph (g) of this AD, any terminal block is found to have a value of less than 50 megohms, before next flight, replace it with a new or serviceable terminal block, in accordance with paragraph 2.G. of the Accomplishment Instructions of BAE SYSTEMS (OPERATIONS) LIMITED Inspection Service Bulletin 24-143, Revision 1, dated October 2, 2012.

**(i) Inspection Report Difference**

Where BAE SYSTEMS (OPERATIONS) LIMITED Inspection Service Bulletin 24-143, Revision 1, dated October 2, 2012, specifies to complete the test result sheets in Appendices 1, 2, 3, and 4 and the inspection report in Appendix 6, and send the information to BAE Systems (Operations) Limited, this AD does not require that action.

**(j) Credit for Previous Actions**

This paragraph provides credit for actions required by paragraphs (g) and (h) of this AD, if those actions were performed before the effective date of this AD using BAE SYSTEMS (OPERATIONS) LIMITED Inspection Service Bulletin 24-143, dated September 26, 2011, which is not incorporated by reference in this AD.

**(k) Other FAA AD Provisions**

The following provisions also apply to this AD:

**(1) Alternative Methods of Compliance (AMOCs):** The Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the International Branch, send it to ATTN: Todd Thompson, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone (425) 227-1175; fax (425) 227-1149. Information may be emailed to: [9-ANM-116-AMOC-REQUESTS@faa.gov](mailto:9-ANM-116-AMOC-REQUESTS@faa.gov). Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office. The AMOC approval letter must specifically reference this AD.

**(2) Airworthy Product:** For any requirement in this AD to obtain corrective actions from a manufacturer or other source, use these actions if they are FAA-approved. Corrective actions are considered FAA-approved if they are approved by the State of Design Authority (or their delegated agent). You are required to assure the product is airworthy before it is returned to service.

**(l) Related Information**

(1) Refer to MCAI European Aviation Safety Agency (EASA) Airworthiness Directive 2012-0040, dated March 13, 2012; and BAE SYSTEMS (OPERATIONS)

LIMITED Inspection Service Bulletin 24-143, Revision 1, dated October 2, 2012; for related information.

(2) For service information identified in this AD, contact BAE SYSTEMS (OPERATIONS) LIMITED, Customer Information Department, Prestwick International Airport, Ayrshire, KA9 2RW, Scotland, United Kingdom; telephone +44 1292 675207; fax +44 1292 675704; email [RApublications@baesystems.com](mailto:RApublications@baesystems.com); Internet <http://www.baesystems.com/Businesses/RegionalAircraft/index.htm>. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

Issued in Renton, Washington, on October 26, 2012.

Kalene C. Yanamura,  
Acting Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.

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